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Some features of hydrolysis of the hybrid B-Z-form dna by serratia marcescens nuclease

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Abstract

Highly polymerized herring testis DNA of the random nucleotide sequence was used as a model of natural substrate to study some features of hydrolysis of the hybrid B-Z form with Serratia marcescens nuclease. The hybrid B-Z-form was formed upon addition of 1.15. M MgSO4 and 0.421 mM Co(NH3)6Cl3. The DNA transition from the right handed B-form to the hybrid B-Z-form caused a decrease in Vmax of DNA cleavage with the nuclease. The diminishing Vmax was consistent with diminishing values of Km and Kcat. The binding of Mg2+ or Co(NH3)6 3+ to highly polymerized DNA caused correspondingly about 80-or 7-fold decrease in Km and more than 1600 or 600 decrease in Kcat compared with that of Mg-DNA complex of B-form. © 2014 Science Publication.

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Keywords

Hybrid B-Z-form DNA, Serratia marcescens nuclease, Sma Nuc